

Translation

PATENT COOPERATION TREATY

**PCT**

**INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY**  
 (Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference <b>2003-0604 P</b>	FOR FURTHER ACTION	See Form PCT/IPEA/416
International application No. <b>PCT/EP2004/006926</b>	International filing date (day/month/year) <b>25.06.2004</b>	Priority date (day/month/year) <b>25.06.2003</b>
International Patent Classification (IPC) or national classification and IPC		
Applicant <b>OCÉ PRINTING SYSTEMS GMBH</b>		

<ol style="list-style-type: none"> <li>1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.</li> <li>2. This REPORT consists of a total of <b>9</b> sheets, including this cover sheet.</li> <li>3. This report is also accompanied by ANNEXES, comprising:                     <ol style="list-style-type: none"> <li>a. <input checked="" type="checkbox"/> (<i>sent to the applicant and to the International Bureau</i>) a total of <b>8</b> sheets, as follows:                             <ul style="list-style-type: none"> <li><input checked="" type="checkbox"/> sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).</li> <li><input checked="" type="checkbox"/> sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.</li> </ul> </li> <li>b. <input type="checkbox"/> (<i>sent to the International Bureau only</i>) a total of (indicate type and number of electronic carrier(s)) _____, containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).</li> </ol> </li> </ol>																								
<ol style="list-style-type: none"> <li>4. This report contains indications relating to the following items:                     <table border="0"> <tr> <td><input checked="" type="checkbox"/></td> <td>Box No. I</td> <td>Basis of the report</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Box No. II</td> <td>Priority</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Box No. III</td> <td>Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Box No. IV</td> <td>Lack of unity of invention</td> </tr> <tr> <td><input checked="" type="checkbox"/></td> <td>Box No. V</td> <td>Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Box No. VI</td> <td>Certain documents cited</td> </tr> <tr> <td><input checked="" type="checkbox"/></td> <td>Box No. VII</td> <td>Certain defects in the international application</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Box No. VIII</td> <td>Certain observations on the international application</td> </tr> </table> </li> </ol>	<input checked="" type="checkbox"/>	Box No. I	Basis of the report	<input type="checkbox"/>	Box No. II	Priority	<input type="checkbox"/>	Box No. III	Non-establishment of opinion with regard to novelty, inventive step and industrial applicability	<input type="checkbox"/>	Box No. IV	Lack of unity of invention	<input checked="" type="checkbox"/>	Box No. V	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement	<input type="checkbox"/>	Box No. VI	Certain documents cited	<input checked="" type="checkbox"/>	Box No. VII	Certain defects in the international application	<input type="checkbox"/>	Box No. VIII	Certain observations on the international application
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Date of submission of the demand	Date of completion of this report
Name and mailing address of the IPEA/EP	Authorized officer
Facsimile No.	Telephone No.

## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/EP2004/006926

## Box No. I Basis of the report

1. With regard to the language, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.

- This report is based on translations from the original language into the following language \_\_\_\_\_ which is the language of a translation furnished for the purposes of:
- international search (Rule 12.3 and 23.1(b))
  - publication of the international application (Rule 12.4)
  - international preliminary examination (Rule 55.2 and/or 55.3)

2. With regard to the elements of the international application, this report is based on (*replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report*):

- the international application as originally filed/furnished  
 the description:

pages 1-22 as originally filed/furnished

pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_

pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_

- the claims:

nos. \_\_\_\_\_ as originally filed/furnished

nos.\* \_\_\_\_\_ as amended (together with any statement) under Article 19 22.04.2005 with letter

nos.\* 1-28 received by this Authority on of 22.04.2005

nos.\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_

- the drawings:

sheets 1/3-3/3 as originally filed/furnished

sheets\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_

sheets\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_

- a sequence listing and/or any related table(s) – see Supplemental Box Relating to Sequence Listing.

3.  The amendments have resulted in the cancellation of:

- the description, pages \_\_\_\_\_
- the claims, nos. 1-30 \_\_\_\_\_
- the drawings, sheets/figs \_\_\_\_\_
- the sequence listing (*specify*): \_\_\_\_\_
- any table(s) related to sequence listing (*specify*): \_\_\_\_\_

4.  This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

- the description, pages \_\_\_\_\_
- the claims, nos. 28 \_\_\_\_\_
- the drawings, sheets/figs \_\_\_\_\_
- the sequence listing (*specify*): \_\_\_\_\_
- any table(s) related to sequence listing (*specify*): \_\_\_\_\_

\* If item 4 applies, some or all of those sheets may be marked "superseded."

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Box No. V	<b>Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</b>
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## 1. Statement

Novelty (N)	Claims <u>1-28</u>	YES
	Claims _____	NO
Inventive step (IS)	Claims <u>2, 5, 7-21, 23, 24-26</u>	YES
	Claims <u>1, 3, 4, 6, 22, 27, 28</u>	NO
Industrial applicability (IA)	Claims <u>1-28</u>	YES
	Claims _____	NO

## 2. Citations and explanations (Rule 70.7)

This report makes reference to the following documents:

- D1: US 2001/021313 A1 (MAEHARA SHIGEHARU) 13 September 2001 (2001-09-13)
- D2: EP-A-1 220 051 (RICOH KK) 3 July 2002 (2002-07-03)
- D3: US 2002/110379 A1 (CREUTZMANN EDMUND ET AL) 15 August 2002 (2002-08-15)
- D4: PATENT ABSTRACTS OF JAPAN vol. 2003, no. 03, 5 May 2003 (2003-05-05) & JP 2002 341640 A (RICOH CO LTD), 29 November 2002 (2002-11-29)
- D5: PATENT ABSTRACTS OF JAPAN vol. 2003, no. 09, 3 September 2003 (2003-09-03) & JP 2003 131485 A (RICOH CO LTD), 9 May 2003 (2003-05-09)
- D6: EP-A-1 168 098 (CANON KK) 2 January 2002 (2002-01-02)

### 1. Claim 24

#### 1.1 Novelty

D6, which is considered to be the closest prior art, discloses a method from which the subject matter of claim 24 differs in that the conveying actions are allocated to the transport container and are compared with a threshold

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value only after a preset number of conveying actions have been carried out after the minimum amount of toner material in developer station/reservoir has not been reached.

The subject matter of claim 24 is therefore novel (PCT Article 33(2)).

The problem to be solved by the present invention can therefore be regarded as that of accurately determining the amount of toner in the transport container.

**1.2 Inventive step**

The solution to this problem as proposed in claim 24 of the present application involves an inventive step for the following reasons (PCT Article 33(3)):

the measured amount of toner and the number of conveying actions are allocated to the transport container and are compared with a threshold value only after a preset number of conveying actions have been carried out after the minimum amount of toner material in developer station/reservoir has not been reached.

**1.4** Claims 2, 5, 7-21 and 25-26 are dependent on claims 1 and 24, respectively, and meet the PCT requirements for novelty and inventive step.

**2. Inventive step**

The present application fails to meet the requirements of PCT Article 33(1) because the subject matter of claims 1, 22 and 27 does not involve an inventive step within the meaning of PCT Article 33(3).

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2.1 D2 is considered to be the prior art closest to the subject matter of claim 1. D2 discloses (the references in parentheses are to D2):  
a method of conveying toner material in an electrophotographic printer or copier (paragraph [1]), wherein an amount of toner is transported from a reservoir to the developer station (paragraph [39]), this amount being measured (paragraphs [5, 9]), stored (paragraph [14]) and allocated to the transport container (paragraphs [37, 41]).

Thus the subject matter of claim 1 differs from the known method in that two lower threshold values are set. However, D2 discloses a conventional feature well known to a person skilled in the art according to which a lower threshold value is set (paragraph [5], the measured density decreases with the amount). It is therefore obvious that, during refilling, the amount in the container reaches a threshold value or falls below the threshold value and that the container is to be filled at least up to the threshold value.

2.2 D3 is considered to be the prior art closest to the subject matter of claims 22 and 27. D3 discloses, to the extent that the claim is clear - the method steps are not regarded as delimiting; see also point 3; (the references in parentheses are to D3):  
a system for conveying toner material, said system

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Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

having a first conveying device (paragraphs [53, 69]), a device (paragraph [44]) and a second conveying device (implicit in paragraph [53], in which an intermediate container is disclosed).

Thus the subject matter of claim 22 differs from the known system in that threshold values are explicitly set.

The problem to be solved by the present invention can therefore be regarded as that of ensuring that there is always toner in the developer station.

The solution proposed in claim 22 of the present application cannot be regarded as inventive for the following reasons (PCT Article 33(3)):

D3 discloses all the technical features, and the provision or measurement of threshold values are obvious measures which a person skilled in the art would apply in order to arrive at the subject matter of the claims, without thereby being inventive.

- 2.3 A similar argument applies accordingly to independent claim 27, to the extent that also this claim can be understood owing to a lack of clarity. D3 discloses the technical features of the claim. The present subject matter differs from this prior art in that the number of conveying actions is detected. However, it is immediately clear to a person skilled in the art that the amount of toner can be determined in different

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ways (D3, paragraph [44]) and a person skilled in the art would combine this fact with the technology for determining the amount of toner in D6 (paragraph [69]) in order to arrive at the subject matter of the claim.

The subject matter of claims 1, 22 and 27 therefore does not involve an inventive step (PCT Article 33(3)).

- 2.4 The subject matter of claims 3, 4 and 6, which are dependent on the first claim, does not include any inventive steps.
- 2.5 The combination of features in dependent claim 23, i.e. that an information carrier on the transport container contains the number of conveying actions or possible number of conveying actions as a threshold value in such a way that it can be read by a device is neither known nor obvious from the available prior art.

**3. Clarity and conciseness**

- 3.1 As explained below, several features in device claims 22 and 27 relate to a method of using the device and not to the definition of the device using its technical features. Contrary to PCT Article 6, the intended limitations are therefore not clear from the claim. The following method steps are concerned: fall below the threshold value, convey toner, measure amount, remove, fill, indicate status as empty/toner present.

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|-----------|--|
| 3.2       | <p>As already mentioned in the first report, claims 1 and 24, 22 and 27 are not concise and therefore fail to meet the requirements of PCT Article 6. Although the claims are drafted as separate independent claims, they seem in fact to relate to the same subject matter, the only apparent difference being in the definition of the subject matter, i.e. in the terminology used for the features of this subject matter, the amount of toner being measured by means of a more specific method in claims 24 and 27.</p> |
| 3.3       | <p>The amendments submitted with the letter of 22 April 2005 introduce substantive matter which, contrary to PCT Article 34(2) (b), goes beyond the disclosure in the international application as filed. The amendments are as follows: claim 28 describes two storage regions; however, these features are not disclosed in the description or in the originally submitted application.</p>  |

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**Box No. VII      Certain defects in the international application**

The following defects in the form or contents of the international application have been noted:

**See Box V.**